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BROWN KIWI SURVEY, OKARITO 16-26 JULY 1990

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ABSTRACT

The brown kiwi (*Apteryx australis australis*) population at Okarito was studied in order to collect blood samples for genetic speciation studies, to establish a base of population density information, and to record local knowledge of the species' distribution. A significant find was one nest in which incubation was shared; this differs from the male-only incubation of North Island brown kiwi and resembles breeding strategy of the Stewart Island brown kiwi. The population, which is probably made up of aging birds, is in serious decline. As it is one of only three remaining populations of this subspecies, management of this group is crucial and of high priority.

1. INTRODUCTION

In June 1979 the NZ Wildlife Service Fauna Survey Unit surveyed the brown kiwi at Okarito to find the distribution and abundance of the population. Kiwi were found between the Waiho and Okarito Rivers. Unfortunately, except for positions of some (but not all) birds caught or reported, little data from that survey remain.

Studies by C. Daugherty (Victoria University of Wellington) of the blood protein and R. Palma (National Museum) of lice of the Okarito kiwi show differences from the other South Island brown kiwi populations; this indicates long periods of isolation, probably as a result of glaciation in the area. The Okarito brown kiwi may be more closely related to the North Island browns than to those of the rest of the South Island (C. Daugherty pers. comm.).

There were four objectives of the July 1990 survey: To collect 10-20 blood samples for genetic analysis; to establish a data base of density indices (call rates per hour) at listening stations so that changes in the density of the population can be determined; to establish a listening station for monitoring seasonal fluctuations in call rates (to find the most suitable season for surveying); and to interview local people and add to what we know about the kiwis' distribution.

2. METHODS

Department staff from Franz Josef field centre and the West Coast Conservancy office,

Hokitika, spent on average two hours per night at listening stations in areas where birds had been recorded in 1979. Kiwi Call Scheme cards were filled in; then, after the official listen had finished, tape recordings of kiwi calls were played to elicit responses. An amplifier and loud speaker helped produce clear loud calls.

Reports by local people were followed up by intensive listening.

3. RESULTS AND CONCLUSIONS

The weather was mostly fine and calm for all but four of the ten nights, and listening was done over eight nights. Listening conditions were often 'exceptional' in that birds could be heard through the cold frosty air from as far away as two to three kilometres.

A reliable report of brown kiwi in the North Okarito block (J. Reid pers. comm.) and southern Saltwater State Forest (J. Mead pers. comm.) have doubled the range of the birds from the range indicated in the 1979 survey. However these reports are few and far between. Locations of reports and birds heard have been deliberately kept vague.

Nine calls were heard in 40 hours at 21 listening stations at Okarito. Further time was spent playing tape recordings and listening for five to twenty minutes for replies. Kiwi responded very quickly to taped calls, often after 10 seconds from playing. A total of nine individuals were heard (seven males and two females).

Most calls were distant; because the few birds heard were not pinpointed accurately, only two birds were found by the dog, Tess, on 23 July. These two birds were in a burrow with at least one egg. On 24 July, both were in the nest and the male was incubating. The next day, both were in the nest again but the female was incubating. This behaviour is a significant find, as it differs from the 'normal' male-only incubation of brown kiwi from the North Island and resembles the breeding strategy of the Stewart Island brown kiwi.

The male on the nest had regular white markings on each side of its head. The female was facing away from the nest entrance so that head was not seen. Photos in the Department of Conservation slide library (Science and Research Division, Wellington) also show these markings, which could be a distinguishing feature of the population (Fig. 1).

Kiwi were detected in only 5 out of 17 territories that had kiwi reported in 1979. Once the adults die there appears to be no pressure for juveniles to take over the vacant territories. This suggests a declining population, probably composed of ageing birds.

The exact reasons for the decline are unknown but are likely to be:

Dogs: Uncontrolled dogs were seen on Okarito Trig track and at the Okarito Village. Dogs are widely known to prey on kiwi.

Stoats: Three stoats were seen on the roads during the survey and are reported as common in the area. Stoats probably do not commonly kill adult kiwi, but young kiwi would be particularly vulnerable.

Possum traps: The two kiwi reported at Lake Pratt in 1980 were later caught in gin traps.

Disease: A kiwi caught during the first survey had a severe feline ringworm infection (C. Roderick pers. comm., Fig. 2).

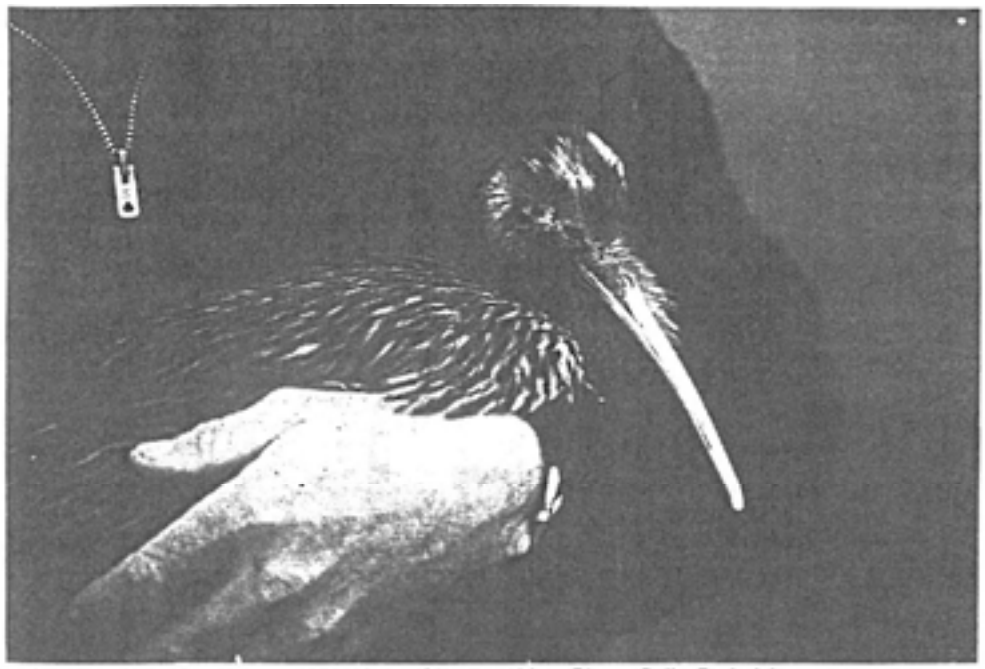

Figure 1. Photograph of female brown kiwi from Okarito 1982. *Photo Colin Roderick*

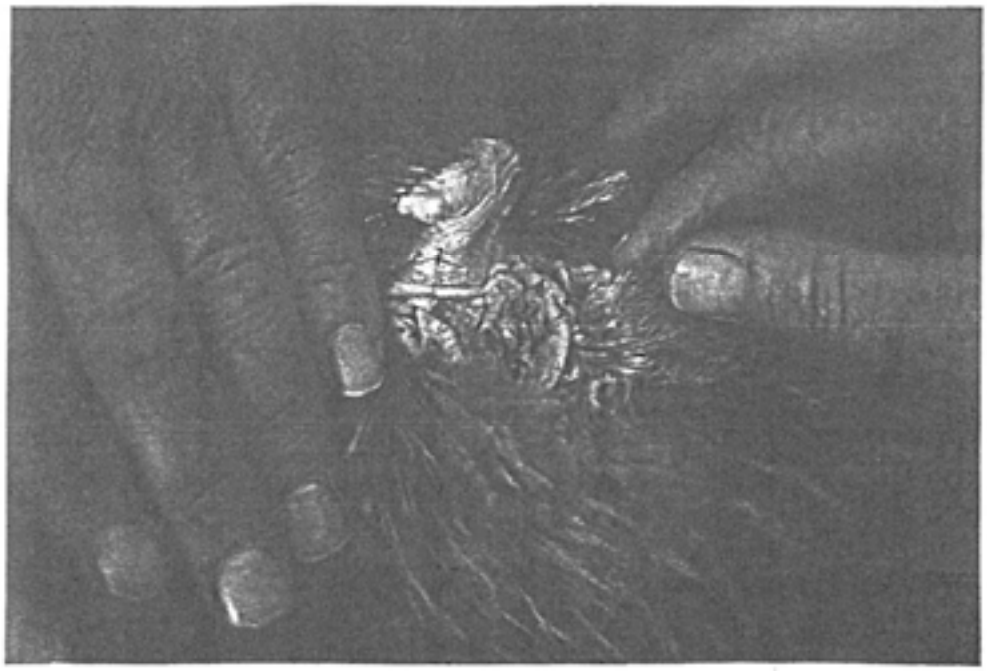

Figure 2. Underside of an Okarito brown kiwi's wing showing convoluted skin and scabs: possibly a fungal infection.

An estimation of the total number of individuals is difficult. Although only nine individuals were heard it is expected that some additional birds will be identified with further listening. Whatever the total number is it is likely to be very low. This population is at a critical level! Management of this population must be given high priority. If this population disappears we will be down to only two populations of South Island brown kiwi. One of those (the Haast population) is likewise reported as endangered.

4. RECOMMENDATIONS

4.1 Public Aspect

Education on dog control: There should be signs at major track entrances.

Interpretation: Mount a display at Franz Josef Visitors' Centre and provide information at Okarito wharf shed.

4.2 Research on Site

Establish long-term listening stations. The Okarito Trig should be monitored over two consecutive nights every two months for a year. Listening should be done the first two hours after sunset, in the dark phase of the moon, and in calm weather. This listening will determine the optimum period of the year for kiwi surveys at Okarito.

Observe and, if possible, protect the kiwi nest. No more than two people at most should check every week until hatching and from then on until the chick leaves the nest. Observations at nest must be kept brief with as little disturbance of vegetation as possible. If predator sign is seen, observers should tell the Conservancy Office that they intend to begin predator control measures.

Establish a stoat abundance index trapline. To set out Fenn traps throughout the incubating kiwis' territory, but well away from the vicinity of the kiwi nest.

When in the field, staff should listen from several other specific locations where kiwi have been reported from.

Blood samples need to be taken from 4-10 birds. These would illustrate reported genetic differences of this population. Photographs of birds should be made in order to determine uniformity of colour patterns. Birds need to be inspected for signs of disease. Individuals should be banded.

5. ACKNOWLEDGEMENTS

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We would also like to thank the local people: Bill Croft and Jane Neale, Trevor Davies, Judith Moyhnihan and Jeffery Friend who put us onto reports of kiwi in the area.

FOOTNOTE: Since this survey, DOC staff from Franz Josef have listened over eight hours, at two locations specified. An additional four individual kiwi (two males and two females) were heard.